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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,259	09/11/2003	Mototsugu Ono	1560-0398P	3537
2292	7590	09/12/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			CONLEY, SEAN EVERETT	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/659,259

Applicant(s)

ONO, MOTOTSUGU

Examiner

Sean E. Conley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/11/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see pages 4-7, filed August 24, 2006, with respect to the rejection(s) of claim(s) 1-4 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Dion-Biro (U.S. Patent No. 2,808,080), Glaros (U.S. Patent No. 3,469,788), Heimburger (U.S. Patent No. 2,310,633), and Fisher (U.S. Patent No. 6,003,787).

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dion-Biro (U.S. Patent No. 2,808,080) in view of Glaros (U.S. Patent No. 3,469,788).

Regarding claim 1, Dion-Biro discloses an apparatus capable of spraying a sterilizing and disinfecting chemical including alcohol into a target space, comprising: a nozzle; a chemical container (reservoir (1)) containing the chemical to be sprayed and attached to the nozzle; a gas cylinder (11) filled with a compressed carbon dioxide gas as a carrier gas; a pressure reducing valve (13) attached near an outlet of said gas cylinder (11); and a gas hose (conduit (14)) directly connected to the pressure reducing

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valve and a hose (3) attached to the nozzle, whereby the chemical is sprayed into the target space by a function of the carrier gas injected from the end nozzle. Dion-Biro further discloses that the above device avoids freezing of the carbon dioxide gas due to decompression in the pressure reducing valve during spraying of the product (see figure 1; col. 1, lines 15-45; col. 2, lines 14-72; col. 3, lines 5-44).

However, Dion-Biro is silent with regards to the type of nozzle used to spray the product, therefore, it would have been necessary and thus obvious to look to the prior art for conventional nozzles. Glaros provides this conventional teaching showing that it is known in the art to use a spray gun type nozzle to spray a fluid that includes a decompressed carrier gas (see figure 8; col. 1, line 55 to col. 2, line 9; col. 6, lines 36-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a spray gun comprising a nozzle as taught by Glaros motivated by the expectation of successfully practicing the invention of Dion-Biro.

Regarding claim 2, Dion-Biro discloses that the gas cylinder (11), pressure reducing valve (13) and gas hose (conduit (14) and hose (3)) are mounted on a common truck (carriage (C)) shared by the nozzle and chemical container (1) (see figure 1; col. 3, lines 6-10).

Regarding claims 3 and 4, Glaros discloses that the spray gun (36) is detachable from the chemical container (cylinder (32)) so that the spray gun can be cleaned (see col. 6, lines 49-55). Therefore, it would have been obvious to one of ordinary skill in the

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art at the time the invention was made to modify the invention of Dion-Biro and make the nozzle removable as taught by Glaros in order to clean the nozzle.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heimbürger (U.S. Patent No. 2,310,633) in view of Dion-Biro (U.S. Patent No. 2,808,080).

Regarding claim 1, Heimbürger discloses a spray gun (1) having an end nozzle (25); a chemical container (receptacle (34)) containing the chemical, the container being attached to the spray gun (1); a compressed gas source (not shown) filled with a compressed gas; a gas hose (hose (10)) directly connected to the spray gun (1) and the compressed gas source (see figure 1; col. 2, lines 25-45; col. 2, line 50 to col. 3, line 38). Heimbürger is silent with regards to the type of compressed gas or source used in the invention, therefore, it would have been necessary and thus obvious to look to the prior art for conventional types of compressed gases and sources used to provide a compressed gas carrier in a liquid spraying device. Dion-Biro provides this conventional teaching showing that it is known in the art to use compressed gas cylinders (5 and 11) containing compressed carbon dioxide gas and being connected to a pressure reducing valve (14) at the outlet of cylinder (11) in order to provide a constant pressure carrier gas to a product that is to be sprayed. Furthermore, the setup of Dion-Biro avoids freezing of the carbon dioxide carrier gas (see figure 1; col. 1, lines 15-45; col. 2, lines 14-72; col. 3, lines 5-44).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a compressed gas system (compressed gas cylinders (5 and 11) containing compressed carbon dioxide gas and being connected to a pressure reducing valve (14) at the outlet of cylinder (11)) as taught by Dion-Biro motivated by the expectation of successfully practicing the invention of Heimbürger.

Regarding claim 2, Heimbürger discloses that the components of apparatus can be mounted on a wheeled truck to facilitate portability (see col. 4, lines 39-51). Dion-Biro also discloses that the gas cylinder (11), pressure reducing valve (13) and gas hose (conduit (14) and hose (3)) are mounted on a common truck (carriage (C)) shared by the nozzle and chemical container (1) (see figure 1; col. 3, lines 6-10).

Regarding claims 3 and 4, Heimbürger discloses that the chemical container (34) is detachably attached to the spray gun (1) (see figure 1; col. 1, line 50 to col. 2, line 3; col. 4, lines 5-38).

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher (U.S. Patent No. 6,003,787) in view of Dion-Biro (U.S. Patent No. 2,808,080).

Regarding claim 1, Fisher discloses an apparatus for spraying an insecticide comprising a spray gun (10) having an end nozzle (36); a chemical container (37) containing the chemical, the container being attached to the spray gun (10); a compressed gas source filled with a compressed gas; a gas hose (hose (12)) directly connected to the spray gun (10) and the compressed gas source (see figure 1; col. 3, lines 3-66; col. 4, lines 1-13). Fisher is silent with regards to the type of compressed

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gas or source used in the invention as an alternative to compressed air, therefore, it would have been necessary and thus obvious to look to the prior art for conventional types of compressed gases and sources used to provide a compressed gas carrier in a liquid spraying device. Dion-Biro provides this conventional teaching showing that it is known in the art to use compressed gas cylinders (5 and 11) containing compressed carbon dioxide gas and being connected to a pressure reducing valve (14) at the outlet of cylinder (11) in order to provide a constant pressure carrier gas to a product that is to be sprayed. The setup of Dion-Biro avoids freezing of the carbon dioxide carrier gas (see figure 1; col. 1, lines 15-45; col. 2, lines 14-72; col. 3, lines 5-44).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a compressed gas system (compressed gas cylinders (5 and 11) containing compressed carbon dioxide gas and being connected to a pressure reducing valve (14) at the outlet of gas cylinder (11)) as taught by Dion-Biro motivated by the expectation of successfully practicing the invention of Fisher.

Regarding claim 2, Dion-Biro also discloses that the apparatus including the gas cylinder (11), pressure reducing valve (13) and gas hoses (conduit (14), hose (3)) are mounted on a common truck (carriage (C)) shared by the nozzle and chemical container (1) in order to facilitate portability (see figure 1; col. 3, lines 6-10). Therefore, it would have been obvious to modify the invention of Fisher and mount the components of the device on a carriage as taught by Dion-Biro in order to facilitate the portability of the device.

Regarding claims 3 and 4, Fisher discloses that the chemical container (37) is detachably attached to the spray gun (10) (see figure 1a; col. 3, lines 30-46).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E. Conley whose telephone number is 571-272-8414. The examiner can normally be reached on M-F 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SEC

*A. E. C.*

September 7, 2006

  
GLADYS JP CORCORAN  
SUPERVISORY PATENT EXAMINER